

SIMATIC S7-1200, Digital input SM 1221, 16 DI, 24 V DC, Sink/Source



| Supply voltage | |
|---|-------------------|
| Rated value (DC) | |
| <ul style="list-style-type: none"> • 24 V DC | Yes |
| permissible range, lower limit (DC) | 20.4 V |
| permissible range, upper limit (DC) | 28.8 V |
| Input current | |
| from backplane bus 5 V DC, max. | 130 mA |
| Digital inputs | |
| <ul style="list-style-type: none"> • from load voltage L+ (without load), max. | 4 mA; per channel |
| Output voltage | |
| Power supply to the transmitters | |
| <ul style="list-style-type: none"> • present | Yes |
| Power loss | |
| Power loss, typ. | 2.5 W |
| Digital inputs | |
| Number of digital inputs | 16 |
| <ul style="list-style-type: none"> • in groups of | 4 |

| | |
|---|---|
| Input characteristic curve in accordance with IEC 61131, type 1 | Yes |
| Number of simultaneously controllable inputs | |
| all mounting positions | |
| — up to 40 °C, max. | 16 |
| horizontal installation | |
| — up to 40 °C, max. | 16 |
| — up to 50 °C, max. | 16 |
| vertical installation | |
| — up to 40 °C, max. | 16 |
| Input voltage | |
| • Type of input voltage | DC |
| • Rated value (DC) | 24 V |
| • for signal "0" | 5 V DC at 1 mA |
| • for signal "1" | 15 V DC at 2.5 mA |
| Input current | |
| • for signal "0", max. (permissible quiescent current) | 1 mA |
| • for signal "1", min. | 2.5 mA |
| • for signal "1", typ. | 4 mA |
| Input delay (for rated value of input voltage) | |
| for standard inputs | |
| — parameterizable | Yes; 0.2 ms, 0.4 ms, 0.8 ms, 1.6 ms, 3.2 ms, 6.4 ms and 12.8 ms, selectable in groups of four |
| for interrupt inputs | |
| — parameterizable | Yes |
| Cable length | |
| • shielded, max. | 500 m |
| • unshielded, max. | 300 m |
| Interrupts/diagnostics/status information | |
| Alarms | |
| • Diagnostic alarm | Yes |
| Diagnostics indication LED | |
| • for status of the inputs | Yes |
| Potential separation | |
| Potential separation digital inputs | |
| • between the channels, in groups of | 4 |
| Degree and class of protection | |
| Degree of protection acc. to EN 60529 | |
| • IP20 | Yes |
| Standards, approvals, certificates | |

| | |
|-----------------------|-----|
| CE mark | Yes |
| CSA approval | Yes |
| UL approval | Yes |
| cULus | Yes |
| FM approval | Yes |
| RCM (formerly C-TICK) | Yes |
| Marine approval | Yes |

Ambient conditions

Free fall

- Fall height, max. 0.3 m; five times, in product package

Ambient temperature during operation

- min. -20 °C
- max. 60 °C
- permissible temperature change 5°C to 55°C, 3°C / minute

Ambient temperature during storage/transportation

- min. -40 °C
- max. 70 °C

Air pressure acc. to IEC 60068-2-13

- Storage/transport, min. 660 hPa
- Storage/transport, max. 1 080 hPa

Relative humidity

- Operation at 25 °C without condensation, max. 95 %

Connection method

| | |
|--------------------------|-----|
| required front connector | Yes |
|--------------------------|-----|

Mechanics/material

| | |
|----------------------------|-----|
| Enclosure material (front) | |
| • Plastic | Yes |

Dimensions

| | |
|--------|--------|
| Width | 45 mm |
| Height | 100 mm |
| Depth | 75 mm |

Weights

| | |
|-----------------|-------|
| Weight, approx. | 210 g |
|-----------------|-------|

last modified: 12/23/2017